

Model 6180 series

7/8" Diameter Single Turn Conductive Plastic Precision Potentiometer / Position Sensor



MODEL STYLES AVAILABLE

6181	1/8" Shaft, 1/4" Bushing
6184	6 mm Shaft, 3/8" Bushing
6186	1/8" Shaft, 3/8" Bushing
6187	1/4" Shaft, 3/8" Bushing
6188 for side load applications	1/4" Shaft, 3/8" Bushing

ELECTRICAL¹

Resistance Range	1K to 100K Ohms
Standard Resistance Tolerance	±10%
Minimum Practical Resistance Tolerance	±5%
Independent Linearity ²	±1%
Minimum Practical Independent Linearity	±0.5%
Input Voltage	400 VDC maximum, not to exceed power rating
Power Rating	1.0 Watt at 70°C, derating to 0 at 125°C
Dielectric Strength	750 V rms
Insulation Resistance	1,000 Megohms minimum
Output smoothness	0.1% maximum
Actual Electrical Travel	340° nominal (300° with stop feature)
Electrical Continuity Travel	350° nominal (320° with stop feature)
End Voltage	maximum 0.5% of input voltage
Resolution	essentially infinite
Temperature Coefficient of Resistance ³	-400 ppm/°C typical
Temperature Coefficient of Output Voltage ⁴	±10 ppm/°C typical

MECHANICAL

Total Mechanical Travel	360° Continuous (320° ±3° with stop feature)
Number of Gangs	1 maximum
Weight	0.53 oz. nominal (single gang)
Backlash	1° maximum
Static Stop Strength	40 oz.-in.
Panel Nut Tightening Torque	25 lb.-in. maximum
Start/Run Torque	1.0 oz.-in.

¹ Specifications subject to change without notice.

² Linearity is measured between 1% and 99% of input voltage.

³ Special TCR available to ±100 ppm/°C.

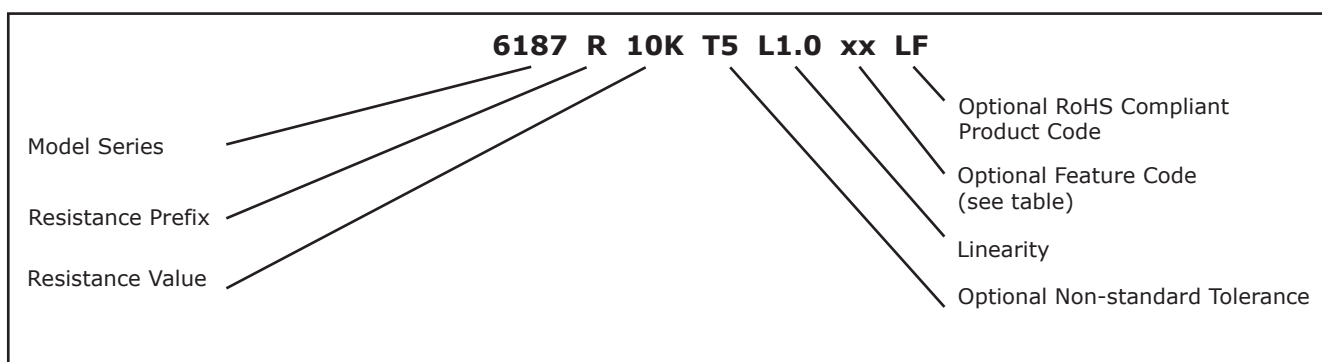
⁴ Measured with 10 VDC CW to CCW and slider at 50% of electrical travel

Model 6180

ENVIRONMENTAL (MIL-PRF-39023)

Operating Temperature Range	-40°C to +125°C dynamic, -65°C to +125°C static
Temperature Cycling	5 cycles, -65°C to +125°C, maximum 10% ΔR
Shock	6 ms Saw-tooth, 100 G's, 0.1 ms maximum discontinuity
Vibration	10 G's, 10 to 500 Hz, maximum 2% ΔR, 0.1 ms maximum discontinuity
Moisture Resistance	five 24 hour cycles, maximum 25% ΔR
High Temperature Exposure	1,000 hours at 125°C, maximum 0.5% ΔV _R
Rotational Life	5 million shaft revolutions
Rotational Load Life	5 million shaft revolutions, maximum 10% ΔR
Ingress Protection Rating (IP Code)	IP40

ORDERING INFORMATION

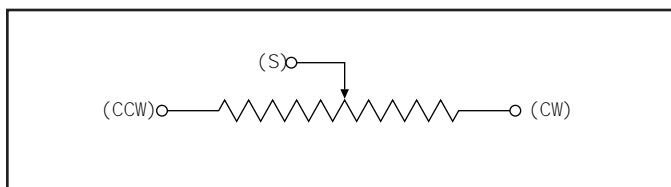


FEATURE CODES

Center Tap	CT
Linearity Tape	LT
Shaft Lock	SL
Stop	ST

When multiple feature codes are used the P/N shall be in the same sequence as listed in this table (top to bottom).

CIRCUIT DIAGRAM



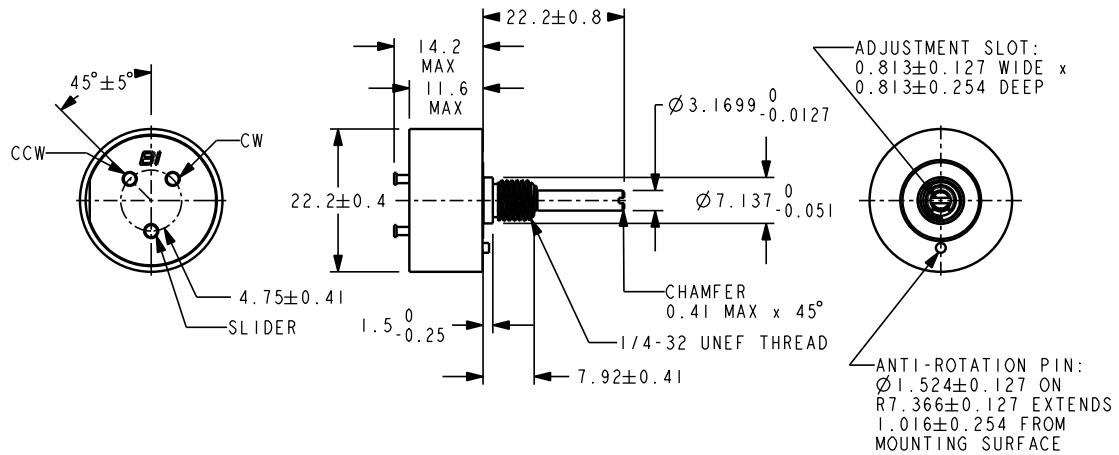
STANDARD RESISTANCE VALUES

1K	2K	5K	10K	20K	50K
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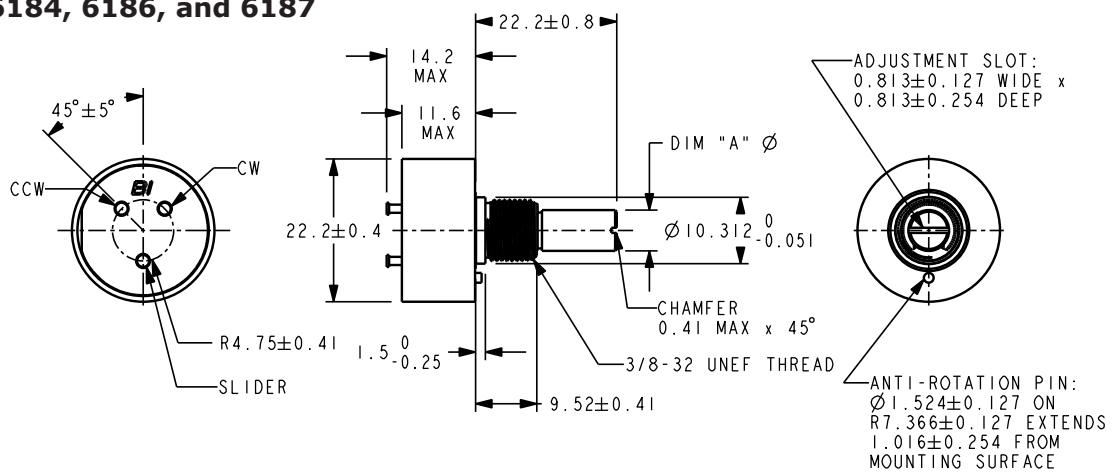
Model 6180

OUTLINE DRAWING

Model 6181



Models 6184, 6186, and 6187



DIM	MODEL 6184	MODEL 6186	MODEL 6187
A	6.0 +0.0000 -0.0127	3.1699 +0.0000 -0.0127	6.3424 +0.0000 -0.0127

Dimensions in mm